



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,465	05/23/2005	Hans Kragl	1106.00002	9418
7590 Daniel H Bliss Bliss McGlynn Suite 600 2075 West Big Beaver Road Troy, MI 48084			EXAMINER MAY, ROBERT J	
			ART UNIT 2885	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/16/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/533,465

Applicant(s)

KRAGL, HANS

Examiner

Robert May

Art Unit

2885

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/29/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8 and 9 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The specification does not clearly describe where “the small irradiation surface” as recited by Claim 1 is located.

Page 8 last paragraph has an error because when the specification is referring to Figure 4, it should be referring to Figure 5 because there is no flat disc shown by Figure 4 (only a rectangular geometry 8a) and a disc is defined as a thin circular object.

The specification fails to provide a description for element number 17 added in the most recent set of drawings.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore,

“a paraboloidal intersecting line on a plane vertically intersecting the lateral surfaces and the LED chip” as required by Claim 5,

“an extension transversely to a paraboloidal extension that is much larger than respective dimensions of the other lateral surfaces of the reflector body” as required by Claim 6, must be shown or the feature canceled from the claim.

Figure 6 comprises a plurality of figures and should be described accordingly and should not have linking lines.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 1 is objected to because it is unclear whether the claim is referring to two reflective surfaces of two objects (i.e. the reflective surface of the sub-mount on line 6, and the reflective surface, on line 12, of the reflector body) and if so, it is suggested to distinguish between these two surfaces by using a distinguishing term such as first and second reflective surfaces.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 is indefinite. The “at least two opposing lateral surfaces generate a paraboloidal intersecting line on a plane vertically intersecting the lateral surfaces and the LED chip” is incomprehensible because “the lateral surfaces of the LED chip” lacks antecedent basis and it is unclear whether it is referring to the same lateral surfaces of the reflector body recited on line 3.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kragl (WO 02/054129) in view of Parkyn (US Pat 6,560,038).

Regarding Claims 1-3, Kragl discloses in Figure 1A, a light emitting diode arrangement comprising a reflector comprising a sub-mount 3 which comprises a reflective surface 19 located in a beam path of a light emitting diode chip wherein the

Art Unit: 2885

sub-mount comprises a blind hole into which the light emitting diode chip 2 is inserted and the reflector comprises a parabaloid reflective surface (Para 0060 lines 5+) disposed above the blind hole. Kragl fails to disclose a reflective body as having a small irradiation surface and a large radiation surface opposing the light emitting diode 2 and the reflector body is inserted with the irradiation surface first where the lateral surface between the small and large surface forms a parabolic reflector surface and forms a continuation of the reflective surface of the submount. Parkyn discloses in Figure 3, a reflector (optical coupler 100) formed on a solid body of transparent material being rotationally symmetric having an axis in which the LED is arrange having a small irradiation surface opposing an LED chip 10, 11 and a large radiation surface 104 opposing the same at a distance where lateral surface between the small and large surface forms a parabolic surface (Col 3, lines 10-11) for directing into light pipes (Col 1, lines 1-5). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to alternatively to use the reflector of Parkyn as an alternative to the transparent adhesive K for directing the light into the light pipe of Kragl.

Regarding Claim 9, Kragl discloses that a transparent cured liquid plastic K fills the space between the small irradiation surfaces the light emitting diode chip (Para 0062).

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kragl and Parkyn as applied to claims 1 and 2 above, and further in view of Hed (5,727,108). Kragl fails to disclose a housing holding the reflective body in place. Hed discloses in Figure 7 a housing 74 (enclosure) for protecting the elements from outside damage (Col 9, lines 53-57). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the arrangement of Kragl with the housing holding the reflective element in place to protect the elements from outside damage.

Regarding Claim 5, Kragl fails to disclose the reflector body as formed by four lateral surfaces adjoining one another wherein at least two opposing lateral surfaces generate a paraboloidal intersecting line on a plane vertically intersecting lateral surface so the lateral surfaces and the LED chip. Hed discloses in Figure 5, a reflector body (CPC 50) with four lateral surfaces where two opposing surfaces have a paraboloidal shape so that the reflector can be especially useful for rectilinear light sources (Col 8, lines 1-2). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the reflector body of Kragl with the reflector body of Figure 5 so that the reflector can be especially useful for rectilinear light sources.

Regarding Claim 6, Kragl fails to disclose a plurality of adjoining LED chips opposing the small irradiation surface of the reflective body and held in place by their sub-mounts. However, it would have been obvious on of ordinary skill to duplicate the LED chips and have a plurality of LED chips held onto the reflective body by means of the their sub-mounts in order to increase the amount of light emitted through the reflective body and it has been held that mere duplication of parts has no patentable

significance unless a new and unexpected result is produced, see *In re Harza*, 274 F.2d 669, 124 USPQ 378.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kragl and Parkyn as applied to claims 1-2 above, and further in view of Clarke (US Pat 4,915,479). Kragl fails to disclose the reflector surfaces of the reflector body as being polished. However, Clarke discloses a light guide 6 with reflective surfaces that are polished so as to establish total internal reflection through the light guide (Col 4, lines 12-14). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the reflective surfaces of Kragl by polishing them as taught by Clarke to establish total internal reflection.

Allowable Subject Matter

Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach or show an arrangement wherein the reflector body is a circular disc or sector of a disc that has a circular opening in a center in combination with the elements recited in Claims 1 and 4.

Response to Arguments

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert May whose telephone number is (571) 272-5919. The examiner can normally be reached between 9 am– 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong (James) Lee can be reached on (571) 272-7044. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300 for all communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval PAIR system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RM

3/1/07

A handwritten signature in black ink, appearing to read 'RL' with a stylized flourish.

RENEE LUEBKE
PRIMARY EXAMINER